

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

REALTIME DATA LLC d/b/a IXO,

Plaintiff,

v.

ARRAY NETWORKS INC.,

Defendant.

C.A. No. 1:17-cv-00800-CFC

(Lead Case)

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT AGAINST  
ARRAY NETWORKS INC.**

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 *et seq.* in which Plaintiff Realtime Data LLC d/b/a IXO (“Plaintiff,” “Realtime,” or “IXO”) makes the following allegations against Defendant Array Networks Inc. (“Array”):

**PARTIES**

1. Realtime is a limited liability company organized under the laws of the State of New York. Realtime has a place of business at 81 Main Street, Suite 209, White Plains, NY 10601. Realtime has been registered to do business in Texas since May 2011. Since the 1990s, Realtime has researched and developed specific solutions for data compression, including, for example, those that increase the speeds at which data can be stored and accessed. As recognition of its innovations rooted in this technological field, Realtime holds a portfolio of United States patents and has numerous pending patent applications. Realtime has licensed patents in this portfolio to many of the world’s leading technology companies. The patents-in-suit relate to Realtime’s development of advanced systems and methods for fast and efficient data compression using numerous innovative compression techniques based on, for example, particular attributes of the

data.

2. On information and belief, Defendant Array Inc. (“Array”) is a Delaware corporation with its principal place of business at 1371 McCarthy Blvd, Milpitas, CA 95035. On information and belief, Array can be served through its registered agent, Incorporating Services, Ltd., 3500 S DuPont Hwy, Dover, DE 19901.

#### **JURISDICTION AND VENUE**

3. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has original subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4. This Court has personal jurisdiction over Defendant Array in this action because Array has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Array would not offend traditional notions of fair play and substantial justice. Array, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement in this District by, among other things, offering to sell and selling products and/or services that infringe the asserted patents.

5. Venue is proper in this district under 28 U.S.C. §§ 1391(b), 1391(c) and 1400(b). Upon information and belief, Array has transacted business in the Eastern District of Texas and has committed acts of direct and indirect infringement in the Eastern District of Texas.

#### **ASSERTED PATENTS**

6. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,054,728 (“the ‘728 patent”) entitled “Data compression systems and methods.” The ‘728 patent was duly and legally issued by the United States Patent and Trademark Office on June 9, 2015. A true and correct copy of the ‘728 Patent is included as Exhibit A.

7. Plaintiff Realtime is the owner by assignment of United States Patent No. 7,415,530 (“the ‘530 patent”) entitled “System and methods for accelerated data storage

and retrieval.” The ‘530 patent was duly and legally issued by the United States Patent and Trademark Office on August 19, 2008. A true and correct copy of the ‘530 patent is included as Exhibit B.

8. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,116,908 (“the ‘908 Patent”) entitled “System and methods for accelerated data storage and retrieval.” The ‘908 Patent was duly and legally issued by the United States Patent and Trademark Office on August 25, 2015. A true and correct copy of the ‘908 Patent is included as Exhibit C.

9. In addition to the factual allegations set forth below for each of the three Counts, the following are non-exhaustive list of fact-based claim constructions that confirm that the claimed solutions do not just cover any form of digital data compression techniques but instead are more focused—and covers a technical sub-species of digital data compression. These constructions include the following:<sup>1</sup>

- a. “compressing” / “compressed” / “compression”: [representing / represented / representation of] data with fewer bits.
- b. “descriptor”: recognizable digital data
- c. “data stream”: one or more data blocks transmitted in sequence
- d. “data block”: a single unit of data, which may range in size from individual bits through complete files or collection of multiple files
- e. “analyze”: directly examine

10. Prior constructions in earlier-filed cases involving these or related patents confirm that the claimed methods and systems are in fact limited to *the compression of digital data*. For example, pursuant to a stipulation, a Texas court construed the term

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<sup>1</sup> Realtime reserves the right to modify these constructions as case progresses, consistent with the practice of meeting and conferring that are typical in any claim construction proceeding.

“compress”—a term used in all patents—to mean “represent data **with fewer bits.**” *Realtime Data LLC v. Actian Corp. et al.*, Case No. 15-cv-463-RWS-JDL, Dkt. No. 362 (E.D. Tex. July 28, 2016). This construction confirmed that the claimed inventions were limited to the realm of digital-data compression, as a “bit” is a unit of digital data. The constructions of other claim terms, such as “data block” and “accelerator” also confirmed that the patented inventions are unique to the compression of digital data. For example, the plain and ordinary meaning of the term “data block” was stipulated to be “a single **unit of data,**” which may only “range in size from individual **bits through complete files or collection of multiple files.**” *Realtime Data LLC v. Actian Corp. et al.*, Case No. 15-cv-463-RWS-JDL, Dkt. No. 362 (E.D. Tex. July 28, 2016).

11. These Patents and related patents have gone through §101 scrutiny before in multiple districts. In a detailed, twenty-two-page opinion issued on September 20, 2017, a court in Texas ruled, in a Report and Recommendation by Magistrate Judge Love, that U.S. Patent Nos. 9,054,728, 7,415,530, and 9,116,908 are “inventive” and “directed to patent eligible subject matter” because they disclose “specific improvement[s] in computer capabilities.” *Realtime Data LLC v. Carbonite, Inc.*, Case No. 17-cv-121, D.I. 70 (E.D. Tex. Sept. 20, 2017), e.g., at 7, 10, 15, 16, 20.

12. On March 7, 2018, after the Carbonite case was transferred to Massachusetts, District Judge Young in Massachusetts adopted in full Judge Love’s rulings “[a]fter careful consideration.” *Realtime Data LLC v. Carbonite, Inc.*, Case No. 1:17-cv-12499, D.I. 97 (D. Mass. March 7, 2018).

13. In addition, two judges in Texas also denied other §101 motions involving the asserted or related patents. Specifically at issue were U.S. Patent Nos. 7,378,992, 7,415,530, and 8,643,513. In one, Magistrate Judge Love held that “an assessment of the claims at issue—by a careful reading of the claims themselves—does not clearly reveal that the patents are abstract.” *Realtime Data LLC v. Actian Corp.*, 6:15-CV-463-RWS-JDL, D.I. 184 (E.D. Tex. Nov. 30, 2015). In the other, District Judge Schroeder adopted

this ruling and further held that under Realtime’s view, namely, that the claims are directed to the compression of digital data, the argument that the patents are directed to an abstract idea “would fail” because the patents “provide technological solutions to problems arising specifically in the realm of computer technology.” *Realtime Data LLC v. Actian Corp.*, 6:15-CV-463-RWS-JDL, D.I. 226 (E.D. Tex. Jan. 21, 2016). Thus, in affirming the denial of the motions to dismiss, Judge Schroeder stated that, if the claim construction proceedings confirmed that the claimed inventions are specific to the methods and systems for the compression of digital data, then the claims would indeed be patent-eligible.

14. These rulings show that the patents are directed to patent eligible subject matter, and that they are also inventive.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 9,054,728**

15. Plaintiff realleges and incorporates by reference paragraphs 1-5 above, as if fully set forth herein.

16. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,054,728 (“the ‘728 patent”) entitled “Data compression systems and methods.” The ‘728 patent was duly and legally issued by the United States Patent and Trademark Office on June 9, 2015. A true and correct copy of the ‘728 Patent is included as Exhibit A.

17. The claims at issue here are not abstract, but rather are limited to particularized technological solutions that improve computer capabilities—e.g., digital data compression systems to increase the capacity of a computer system to store or transfer data more efficiently. The claims are not directed solely to compressing data based on the content of the data, but also to selecting the appropriate compression type to use base not just on a file descriptor, but instead the content of the data and to

compressing the data with two different types of compression techniques. This is but one of the novelties of the inventions of the ‘728 Patent.

18. Because the claims are limited to the field of data blocks and are designed to increase the capacity of a computer system to store or transfer data, the claims of the ’728 Patent are incapable of being performed by pen and pencil. This is reflected in the fact that data has been construed previously, and should be construed herein, to mean “digital data.” Accordingly, the claim herein reflect an improvement to computing technology and computers and do not reflect a previously existing solution that are simply being performed on a computer.

19. The ’728 patent teaches various improved, particularized digital data compression systems and methods to address problems specific to digital data. Indeed, the patent itself states that it deals specifically with limitations and problems arising in the realm of compressing “[d]iffuse digital data” which is **“a representation of data that . . . is typically not easily recognizable to humans in its native form.”** ‘728 patent at 1:52-55.

20. In their most basic form, and ignoring many claim limitations, the claims of the ‘728 patent are directed to systems and methods providing fast and efficient data compression using a combination of content independent data compression and content dependent data compression. *See, e.g.*, ‘728 patent at Abstract, 3:59-5:12. The ‘728 patent addresses problems that existed in the realm of digital data compression, including:

- a. “Lossy data compression techniques provide for an inexact representation of the original uncompressed data such that the

decoded (or reconstructed) data differs from the original unencoded/uncompressed data”

- b. One fundamental problem encountered with most lossless data compression techniques are their content sensitive behavior”
- c. “Another problem with lossless compression is that there are significant variations in the compression ratio obtained when using a single lossless data compression technique for data streams having different data content and data size”
- d. “A further problem is that negative compression may occur when certain data compression techniques act upon many types of highly compressed data.”

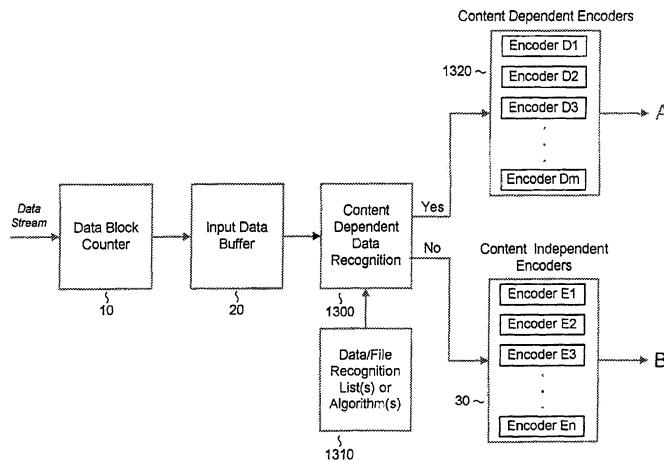
‘458 patent at 1:38-3:55.

21. The ‘728 patent solves the foregoing problems with novel technological solutions in digital data compression utilizing a combination of content independent data compression and content dependent data compression where the encoder selected for the content dependent compression is selected based on more than just a file extension. The novel approaches taught in the specification, include:

- a. “analyzing a data block of an input data stream to identify a data type of the data block, the input data stream comprising a plurality of disparate data types;”
- b. “performing content dependent data compression on the data block, if the data type of the data block is identified;”

c. “performing content independent data compression on the data block, if the data type of the data block is not identified”

22. ‘728 patent at 3:56-5:11; 6:58-9:31. Figure 13A of the ’728 patent is illustrative of one preferred embodiment:



23. To address the technological problems, the claims requires unconventional combination of elements, e.g., (1) “wherein determining is not based solely on a descriptor that is indicative of the parameter or attribute of the data within the data block”; (2) “compressing, if the parameter or attribute of the data … is identified, the data block with at least one encoder associated with the parameter or attribute,” and (3) “compressing, if the parameter or attribute … is not identified, the data block with at least one encoder associated with a non-identifiable parameter or attribute.”

24. The claims require unconventional combination of elements, *e.g.*: (a) “processor”; (b) “one or more content dependent data compression encoders”; and (c) “a single compression encoder”; wherein the processor is configured to (d) “analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or

attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block;” (e) “to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and (f) “to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified.” The processor is specially programmed to perform the algorithms taught by Fig. 13A, among the other teachings of the patent. ‘728 patent at 3: 6:58-9:31.

25. Further, the file history confirms that the claims were inventive over prior art and not well-understood, routine, and conventional. For instance, the patent claims were allowed by the PTO after the PTO considered hundreds of references, which are cited in the “References Cited” portion of the patent.

26. Claim 1 is not representative of all claims of the ‘728 patent. For example, claim 24 claims the use of a “default” compression encoder. Claim 25 claims making a determination as to whether to compress at all.

27. The claims do not merely recite a result. Instead, they recite specific steps for accomplishing a result—a processor configured to analyze data in the claimed manner and compress two data blocks with two different compression techniques.

28. The dependent claims contain limitations not found in the independent claims. For example, dependent claim 4 recites “wherein the compressing, is performed in real-time.”; claim 9 recites “wherein the processor is further configured to associate a data token indicative of the content dependent data compression applied to the data block to create a compressed data block”; claim 12 recites “wherein the content dependent data

compression is lossy or lossless depending on the one or more parameters or attributes of the data”; claim 15 recites “wherein a compressed data block is stored.”

29. In a patent filed by Altera in 2012, it admitted that there was still a technical problem associated with computer capacity and a need for a more efficient compression system: “In order to better meet the requirements of higher speed data transfer, reduced memory utilization and minimal computation in many computing applications, a need exists for computationally efficient compression and decompression.” U.S. Pat. No. 9,026,568 at 2:43-47.

30. Similarly, in a 2013 patent filed by Western Digital, it also admitted that there was still a technical problem associated with computer capacity and a need for a more efficient compression system: “It is desirable to provide mechanisms and architectures for increasing capacity, reliability, and performance of data storage systems.” U.S. Pat. No. 9,448,738 at 1:33-35.

31. The statements in these later-filed patents confirm that Realtime’s patent at issue here are directed to technical solutions to technical problems, and improves computer functionalities. The statements in these later-filed patents also confirm that the limitations recited in Realtime’s patent at issue here are not well-understood, routine, or conventional, and that the claims are not directed to other ideas “identified by the courts as abstract ideas,” that recently have been synthesized into three groups: “(a) mathematical concepts”; “(b) methods of organizing human activity”; or “(c) mental processes.” 84 Fed. Reg. 50 (Jan. 7, 2019) (2019 PTO §101 Guidance, citing and surveying post-*Alice* decisions).

32. On information and belief, Array has offered for sale, sold and/or

imported into the United States Array products that infringe the ‘728 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Array’s products and services, e.g., aCelera WAN Optimization Controllers, aCelera VA Virtual WAN Optimization Controllers, aCelera cloud version, and all versions and variations thereof since the issuance of the ‘728 patent (“Accused Instrumentality”).

33. On information and belief, Array has directly infringed and continues to infringe the ‘728 patent, for example, through its own use and testing of the Accused Instrumentality, which constitute systems for compressing data claimed by Claim 1 of the ‘728 patent, comprising a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. Upon information and belief, Array uses the Accused Instrumentality, an infringing system, for its own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to Array’s customers.

34. On information and belief, Array has had knowledge of the ‘728 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, Array knew of the ‘728 patent and knew of its infringement, including by way of this lawsuit.

35. Array's affirmative acts of making, using, selling, offering for sale, and/or importing the Accused Instrumentality has induced and continues to induce users of the Accused Instrumentality to use the Accused Instrumentality in its normal and customary way on compatible systems to infringe the '728 patent, knowing that when the Accused Instrumentality is used in its ordinary and customary manner with such compatible systems, such systems constitute infringing systems for compressing data comprising; a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. For example, Array explains to customers the benefits of using the Accused Instrumentality: "Available on high-performance Array appliances or as software for cloud and virtualized environments, aCelera™ accelerates the transfer of data and improves the performance of business-critical applications across wide area networks. In addition, aCelera greatly improves bandwidth utilization, allowing businesses to reduce costs or increase ROI by doing more with less. Leveraging stream-based differencing, application blueprints, single instance store, traffic prioritization and network, application and TCP optimizations, aCelera physical and virtual appliances and software clients cost-effectively deliver LAN-like performance between any cloud, data center, branch or user. ... **Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple

copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Compression:** Compression provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation. **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.” See <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>. Array specifically intended and was aware that the normal and customary use of the Accused Instrumentality on compatible systems would infringe the ‘728 patent. Array performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the ‘728 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Array engaged in such inducement to promote the sales of the Accused Instrumentality, *e.g.*, through Array’s user manuals, product support, marketing materials, and training materials to actively induce the users of the accused products to infringe the ‘728 patent. Accordingly, Array has induced and continues to induce end users of the accused products to use the accused products in their ordinary and customary way with compatible systems to make and/or use systems infringing the ‘728 patent, knowing that such use of the Accused Instrumentality with compatible systems will result in infringement of the ‘728 patent.

36. Array also indirectly infringes the ‘728 patent by manufacturing, using, selling, offering for sale, and/or importing the accused products, with knowledge that the

accused products were and are especially manufactured and/or especially adapted for use in infringing the ‘728 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. On information and belief, the Accused Instrumentality is designed to function with compatible hardware to create systems for compressing data comprising; a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. Because the Accused Instrumentality is designed to operate as the claimed system for compressing input data, the Accused Instrumentality has no substantial non-infringing uses, and any other uses would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental. Array’s manufacture, use, sale, offering for sale, and/or importation of the Accused Instrumentality constitutes contributory infringement of the ‘728 patent.

37. The Accused Instrumentality is a system for compressing data, comprising a processor. For example, the physical appliance versions of the Accused Instrumentality must contain a processor, and the virtual appliance versions of the Accused Instrumentality must run on hardware containing a processor running the hypervisor on which the virtual appliance versions run. See, e.g., <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“Physical appliances supporting from 10Mbps to 1Gbps and up to 100,000 concurrent TCP connections. Virtual appliances supporting up to 1Gbps and 64,000 concurrent TCP connections.”).

38. The Accused Instrumentality is a system for compressing data, comprising one or more content dependent data compression encoders. For example, the Accused Instrumentality performs deduplication, which is a content dependent data compression encoder. Performing deduplication results in representation of data with fewer bits. *See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(**“Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS).”).

39. The Accused Instrumentality comprises a single data compression encoder. *See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“**Compression:** Compression provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS).”).

40. The Accused Instrumentality analyzes data within a data block to identify one or more parameters or attributes of the data, for example, whether the data is duplicative of data previously transmitted and/or stored, where the analysis does not rely only on the descriptor. See, e.g.,

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“**Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure

content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS).”).

41. The Accused Instrumentality performs content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified. *See, e.g.*, <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“**Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS).”).

42. The Accused Instrumentality performs data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified.

*See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“**Compression:** Compression provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS).”)

43. Array also infringes other claims of the ‘728 patent, directly and through inducing infringement and contributory infringement, for similar reasons as explained above with respect to Claim 1 of the ‘728 patent.

44. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentality, and touting the benefits of using the Accused Instrumentality’s compression features, Array has injured Realtime and is liable to Realtime for infringement of the ‘728 patent pursuant to 35 U.S.C. § 271.

45. As a result of Array’s infringement of the ‘728 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Array’s infringement, but in no event less than a reasonable royalty for the use made of the invention by Array, together with interest and costs as fixed by the Court.

**COUNT II**

**INFRINGEMENT OF U.S. PATENT NO. 7,415,530**

46. Plaintiff realleges and incorporates by reference paragraphs 1-21 above, as if fully set forth herein.

47. Plaintiff Realtime is the owner by assignment of United States Patent No. 7,415,530 (“the ‘530 patent”) entitled “System and methods for accelerated data storage and retrieval.” The ‘530 patent was duly and legally issued by the United States Patent and Trademark Office on August 19, 2008. A true and correct copy of the ‘530 patent is included as Exhibit B.

48. Consistent with the claim constructions above, Plaintiff Realtime identifies the following additional constructions applicable to the claims of the ’530 patent:

- a. “data accelerator: “hardware or software with one or more compression encoders.”

49. The ’530 claims are not abstract, but rather are limited to particularized technological solutions that improve computer capabilities—e.g., digital data compression systems to improve the ability of a computer system to compress and store data streams on memory devices more efficiently. Specifically, the ’530 patent claims are directed to: computerized systems for compressing and storing digital data streams on memory devices by (1) compressing first and second data blocks of a data stream with different compression techniques and (2) storing the compressed data stream on a memory device; wherein (3) compressing and and storing the compressed data stream occurs faster than storing the uncompressed data stream on the memory device. *See ’530 Patent at Abstract; claim 1.*

50. Because the claims are limited to the field of compressing and storing digital data streams (comprising data blocks that can each comprise complete files or collection of multiple files) and are designed to improve the ability of a computer system to compress and store data streams on memory devices more efficiently, the claims of the '530 Patent are incapable of being performed by pen and pencil. For example, it is not possible by pen and paper to compare "compression and storage time" (i.e., the time required to compress first and second data blocks of a data stream with different compression techniques and storing the compressed data stream on a memory device) against "storage time without compression" (i.e., the time required to the uncompressed data stream on the memory device without compression). Thus, it is not possible to ensure by pen and paper that "compression and storage time" occurs faster than "storage time without compression." Moreover, as data has been construed previously, and should be construed herein, to mean "digital data." Accordingly, the claim herein reflect an improvement to computing technology and computers and do not reflect a previously existing solution that are simply being performed on a computer.

51. The '530 patent teaches improved, particularized digital data compression systems and methods to address problems specific to digital data. As discussed above, "data block" should be construed as "a single unit of data, which may range in size from individual bits through complete files or collection of multiple files"; and "compressing / compressed / compression" should be construed as "[representing / represented / representation] of data with fewer bits." The '530 patent itself states that it deals specifically with limitations and problems arising in the realm of compressing

“[d]iffuse digital data” which is “**a representation of data that . . . is typically not easily recognizable to humans in its native form.**” ‘458 patent at 1:32-36.

52. In their most basic form, and ignoring many claim limitations, the claims of the ’530 patent is directed to systems of digital data compression utilizing a plurality of different compression encoders for accelerated compression and storage of data blocks. *See* ’530 patent at Abstract, 2:58–3:58. The ’530 patent addresses problems that existed in the realm of digital data compression, including:

- a. “high performance disk interface standards . . . offer only the promise of higher data transfer rates through intermediate data buffering in random access memory”
- b. “[f]aster disk access data rates are only achieved by the high cost solution of simultaneously accessing multiple disk drives with a technique known within the art as data striping”
- c. “problems with bandwidth limitations similarly occur within the art by all other forms of sequential, pseudorandom, and random access mass storage devices”

’530 patent at 2:19–54.

53. The ’530 patent solves the foregoing problems with novel technological solutions in digital data compression utilizing a plurality of different encoders, and optionally a compression descriptor, for accelerated storage and retrieval of data blocks. The novel approaches taught in the specification, include:

- a. Using digital compression type descriptor “for output so as to indicate the type of compression format of the encoded data block”

- b. “data storage and retrieval accelerator method and system [being] employed in a disk storage adapter to reduce the time required to store and retrieve data from computer to a disk memory device”
- c. “data storage and retrieval accelerator method and system [being] employed in conjunction with random access memory to reduce the time required to store and retrieve data from random access memory”
- d. “provid[ing] an effective increase of the data storage and retrieval bandwidth of a memory storage device”

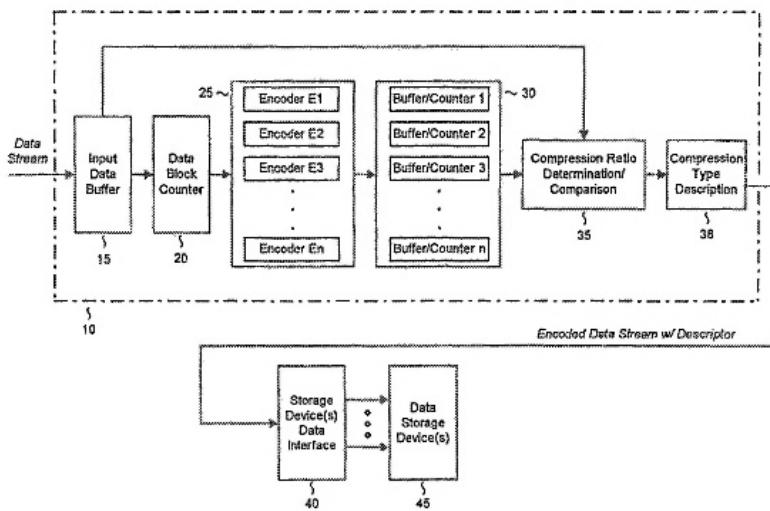


FIGURE 8

'530 patent at 2:58–3:54; 12:14–13:37. Figure 8 illustrates one preferred embodiment:

54. The claims do not merely recite a result. Instead, they recite specific steps for accomplishing a result—e.g., a data accelerator, comprising a memory device, two encoders, and a processor configured to compress two data blocks with two different compression techniques. The specification confirms this. To achieve continuous data storage acceleration, the '530 patent discloses a data storage accelerator 10 and

recognizes that “the advantage of introducing a minimum delay in the time from receipt of input to storage of encoded data blocks” may be necessary in some real-time systems. ’530 patent at 7:4-8:13; 7:31-34; 8:8-10. As illustrated in Figure 8, “the data storage accelerator 10 accepts data blocks from an input data stream and stores the input data block in an input [data] buffer or cache 15.” *Id.*, 11:23-26. To compress the received data, “[t]he encoder module 25 successively receives as input each of the buffered input data blocks (or unbuffered input data blocks from the [data block counter] 20).” *Id.*, 11:52-54. “Data compression is [then] performed by the encoder module 25 wherein each of the encoders E1 . . . En processes a given input data block and outputs a corresponding set of encoded data blocks.” *Id.*, 11:54-57.

55. To achieve continuous data storage acceleration, the ’530 patent discloses several concepts that compress the received data blocks with minimal compression delay. *Id.*, 11:62-12:13; 13:22-31. First, “the encoders E1 through En of encoder module 25 may operate in parallel . . . , by executing on a plurality of processor[s] or dedicated hardware systems, or any combination thereof.” *Id.*, 11:64-12:2. Second, “a timer is included to measure the time elapsed during the encoding process against [] a priori-specified time limit” and ensure real-time or pseudo realtime encoding. *Id.*, 13:24-31. Thus, “[w]hen the time limit expires, only the data output from those encoders (in the encoder module 25) that have completed the present encoding cycle are compared to determine the encoded data with the highest compression ratio.” *Id.*, 13:26-30. Third, “encoders of the identical type may be applied in parallel to enhance encoding speed.” *Id.*, 12:9-11. “For instance, encoder E1 may comprise two parallel Huffman encoders for parallel processing of an input data block.” *Id.*, 12:11-13. By utilizing the above teachings, the data storage

accelerator 10 would have allowed a system to compress and store at least two data blocks using at least two different compression techniques faster than the same system is able to store those same data blocks without any compression, as claim 1 requires.

56. In addition to continuous data storage acceleration, the '530 patent also recognizes that in some instances, the output rate of the data storage accelerator 10 may exceed the data storage rate capability of the data storage device 45. *Id.*, 9:29-10:10. To ensure compatibility in such instances, the '530 patent discloses “[t]iming and counting [the input data block to] enable[] determination of the bandwidth of the input data stream.” *Id.*, 9:27-28.) And “[i]f the bandwidths are not compatible, then one or more system parameters may be modified to make the bandwidths compatible.” *Id.*, 9:41-43. Thus a POSA would have understood from the teaching of the '530 patent's specification that (1) a compatibility problem may arise between the output rate of the data storage accelerator 10 and the write speed capability of the storage device; and (2) a solution to that problem is to make the bandwidths compatible between the data storage accelerator 10 and data storage device 45 by reducing the bandwidth of the compressed data stream so as to not

exceed the bandwidth of the data storage device 45. This problem and solution is reflected in claim 24 of the '530 patent.

57. The claims require unconventional combination of elements, *e.g.*: (a) “a data accelerator” (i.e., hardware or software with one or more compression encoders) that use at least two different compression techniques; (b) “a memory device” (c) where the data accelerator is configured to compress two data blocks; (d) including “a first data block with a first compression technique”; and (e) a “second data block with a second

[and different] compression technique.” The data accelerator is unconventional, as it requires compression encoders using two different compression techniques and the structural capability of compressing and storing digital data on a memory device faster than the digital data can be stored on the memory device in uncompressed form.

58. This “occurs faster than” limitation is unconventional, both alone and in an ordered combination with other claim elements. The prior art does not expressly disclose this limitation and defendants challenging the validity of the ’530 patent have not asserted have not asserted that any prior art discloses this limitation or anticipates the ’530 patent. This evidenced, for example, by the outcome of IPRs on the ’530 patent and related ’908 patent. *See* IPR2016-00972 (FWD on ’530 patent), Paper 71 (PTAB May 15, 2018) (affirmed by Federal Circuit); IPR2016-01002 (FWD on ’908 patent), Paper 71 (PTAB Oct. 31, 2017) (affirmed by Federal Circuit).

59. In the FWDs, for example, the PTAB addressed obviousness challenges as to whether the combination of two prior art references rendered obvious the “occurs faster than” limitation. In those IPRs, the PTAB found that Petitioners had not demonstrated a person of ordinary skill would be motivated to combine prior art references to arrive at the occurs faster limitation. The PTAB also found that Petitioners had not demonstrated a reasonable expectation of success in the combination. As the PTAB stated: “we find that Petitioner failed to meet its burden of proof in showing: (1) how specific references could be combined, which combination(s) of elements in specific references would yield a predictable result, or how any specific combination would operate or read on the asserted claims; which is closely related to point number (2), namely, whether a person having ordinary skill in the art on this record

could have had a reasonable expectation of success in attempting to combine the teachings of Franaszek with Osterlund.” IPR2016-00972, Paper 71 at 20.

60. Further, the file history confirms that the claims were inventive over prior art and not well-understood, routine, and conventional. For instance, the patent claims were allowed by the PTO after the PTO considered hundreds of references, which are cited in the “References Cited” portion of the patent. Moreover, the patentability of the ’530 patent was confirmed in reexamination. *See* ’530 patent reexam certificate. The patentability of claims 1, 2, 16–21, and 23 were confirmed in reexam. *Id.* Further, new claims 24–26 were added and determined to be patentable.

61. Claim 1 is not representative of all claims of the ’530 patent. In particular, the dependent claims contain limitations not found in the independent claims that further confirm that the claims are (1) are directed to digital data compression systems that improve the function and operation of a computer; and (2) recite unconventional elements taken alone or as an ordered combination. For example:

a. Dependent claim 2 requires that the data accelerator store a first data descriptor is stored on the memory device indicative of the first compression technique, where the first description is utilized to decompress the portion of the compressed data stream associated with the first data block. Thus, claim 2 requires a data accelerator that has the structural capability of storing a data descriptor on the memory device.

b. Dependent claims 3–4 require that the data accelerator retrieve either the first descriptor or compressed data stream from the memory device. Thus claims 3–4 requires a data accelerator that has the structural

capability of retrieving a descriptor compressed data from the memory device.

- c. Dependent claims 5 requires that the data accelerator perform decompression.
- d. Dependent claims 7 and 8 require that the data accelerator is coupled to the memory device via a fibre channel or a serial storage architecture.
- e. Dependent claims 9–12 require that the memory device is an optimal memory device, random access memory, or a solid-state mass storage device.
- f. Dependent claim 16 requires that the first compression technique includes compressing with a plurality of encoders “in a parallel configuration.”
- g. Dependent claims 19 requires that the data stream comprises a collection of multiple files.
- h. Dependent claims 22–23 require that the data stream is an analog video data stream or a digital video data stream.
- i. Independent claim 23 and dependent claims 25–26 require similar limitations as independent claim 1 and further require determining the “bandwidth” of a received data stream; and adjusting a data rate of the compressed data stream by “modifying a system parameter, to make a bandwidth of the compressed data stream compatible with a bandwidth of the memory device.”

62. In a patent filed by Altera in 2012, it admitted that there was still a technical problem associated with computer capacity and a need for a more efficient compression system “In order to better meet the requirements of higher speed data transfer, reduced memory utilization and minimal computation in many computing applications, a need exists for computationally efficient compression and decompression.” U.S. Pat. No. 9,026,568 at 2:43-47.

63. Similarly, in a 2013 patent filed by Western Digital, it also admitted that there was still a technical problem associated with computer capacity and a need for a more efficient compression system: “It is desirable to provide mechanisms and architectures for increasing capacity, reliability, and performance of data storage systems.” U.S. Pat. No. 9,448,738 at 1:33-35.

64. The statements in these later-filed patents confirm that Realtime’s patent at issue here are directed to technical solutions to technical problems, and improves computer functionalities. The statements in these later-filed patents also confirm that the limitations recited in Realtime’s patent at issue here are not well-understood, routine, or conventional, and that the claims are not directed to other ideas “identified by the courts as abstract ideas,” that recently have been synthesized into three groups: “(a) mathematical concepts”; “(b) methods of organizing human activity”; or “(c) mental processes.” 84 Fed. Reg. 50 (Jan. 7, 2019) (2019 PTO §101 Guidance, citing and surveying post-*Alice* decisions).

65. On information and belief, Array has offered for sale, sold and/or imported into the United States Array products that infringe the ‘530 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Array’s products and services, e.g., aCelera WAN Optimization

Controllers, aCelera VA Virtual WAN Optimization Controllers, aCelera cloud version, and all versions and variations thereof since the issuance of the ‘530 patent (“Accused Instrumentality”).

66. On information and belief, Array has directly infringed and continues to infringe the ‘530 patent, for example, through its own use and testing of the Accused Instrumentality, which constitutes a system comprising: a memory device; and a data accelerator, wherein said data accelerator is coupled to said memory device, a data stream is received by said data accelerator in received form, said data stream includes a first data block and a second data block, said data stream is compressed by said data accelerator to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique, said first and second compression techniques are different, said compressed data stream is stored on said memory device, said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form, a first data descriptor is stored on said memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block. Upon information and belief, Array uses the Accused Instrumentality, an infringing system, for its own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to Array’s customers.

67. On information and belief, Array has had knowledge of the ‘530 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, Array knew of the ‘530 patent and knew of its infringement, including by way of this lawsuit.

68. Upon information and belief, Array’s affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to

induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 1 of the ‘530 patent by making or using a system comprising: a memory device; and a data accelerator, wherein said data accelerator is coupled to said memory device, a data stream is received by said data accelerator in received form, said data stream includes a first data block and a second data block, said data stream is compressed by said data accelerator to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique, said first and second compression techniques are different, said compressed data stream is stored on said memory device, said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form, a first data descriptor is stored on said memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block. For example, Array explains to customers the benefits of using the Accused Instrumentality: “Available on high-performance Array appliances or as software for cloud and virtualized environments, aCelera™ accelerates the transfer of data and improves the performance of business-critical applications across wide area networks. In addition, aCelera greatly improves bandwidth utilization, allowing businesses to reduce costs or increase ROI by doing more with less. Leveraging stream-based differencing, application blueprints, single instance store, traffic prioritization and network, application and TCP optimizations, aCelera physical and virtual appliances and software clients cost-effectively deliver LAN-like performance between any cloud, data center, branch or user.

... **Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Compression:** Compression provides an ideal balance between data reduction and maximized

throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation. **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”

*See*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>. For similar reasons, Array also induces its customers to use the Accused Instrumentalities to infringe other claims of the ‘530 patent. Array specifically intended and was aware that these normal and customary activities would infringe the ‘530 patent. Array performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the ‘530 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Array engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Array has induced and continues to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the ‘530 patent, knowing that such use constitutes infringement of the ‘530 patent.

69. The Accused Instrumentality evidently includes the memory device and includes the data accelerator, wherein said data accelerator is coupled to said memory device. For example, the physical appliance versions of the Accused Instrumentality must contain a memory device, and the virtual appliance versions of the Accused Instrumentality must run on hardware containing a memory device running the hypervisor on which the virtual appliance versions run. *See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arrynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>  
 (“Physical appliances supporting from 10Mbps to 1Gbps and up to 100,000 concurrent TCP connections. Virtual appliances supporting up to 1Gbps and 64,000 concurrent TCP connections.”).

70. The Accused Instrumentality receives an incoming stream of data. *See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arrynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>  
 (“stream-based differencing enables continuous identification and analysis of larger streams of data in sequential order. Stream-based differencing facilitates the compression, organization and differencing of all data types as part of an overall data reduction and optimization process.”).

71. The Accused Instrumentality’s received data stream will evidently consist of more than one data block. *See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arrynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>  
 (“stream-based differencing enables continuous identification and analysis of larger streams of data in sequential order. Stream-based differencing facilitates the compression, organization and differencing of all data types as part of an overall data reduction and optimization process.”).

72. The Accused Instrumentality compresses said data stream to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique. *See, e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arrynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>  
 (“**Single Instance Store:** Single instance store provides a scalable resource to implement

data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Compression:** Compression provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation. **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS.”).

73. The first (deduplication) and second (compression) compression techniques used by the Accused Instrumentality described above are necessarily different.

*See,*

*e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“**Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Compression:** Compression

provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation. **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS.”).

74. After compression, said compressed data stream is stored on said memory device. *See,* *e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. The history store scales linearly with memory, and storage space adjustments are easy to implement both on physical appliances and in virtual environments. Single instance store allows aCelera to scale to support the needs of large deployments while maintaining high levels of performance, and is critical to supporting individual users without over-utilizing data stores in the data center or cloud.

Single instance store also enables peak performance for complex environments such as meshed networks.”).

75. Said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form. *See, e.g.*, <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arrynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us> (“Available on high-performance Array appliances or as software for cloud and virtualized environments, aCelera™ accelerates the transfer of data and improves the performance of business-critical applications across wide area networks. In addition, aCelera greatly improves bandwidth utilization, allowing businesses to reduce costs or increase ROI by doing more with less. Leveraging stream-based differencing, application blueprints, single instance store, traffic prioritization and network, application and TCP optimizations, aCelera physical and virtual appliances and software clients cost-effectively deliver LAN-like performance between any cloud, data center, branch or user.”).

76. The Accused Instrumentality would evidently store a first data descriptor on said memory device indicative of said first compression technique, such as a pointer to a deduplicated data block, and utilize said first descriptor to decompress the portion of said compressed data stream associated with said first data block. *See, e.g.*, <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arrynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us> (“**Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds

histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent Computing Architecture (ICA), traffic shaping and quality of service (QoS.”).

77. On information and belief, Array also directly infringes and continues to infringe other claims of the ‘530 patent, for similar reasons as explained above with respect to Claim 1 of the ‘530 patent.

78. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the methods claimed by the ‘530 patent.

79. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities’ compression features, Array has injured Realtime and is liable to Realtime for infringement of the ‘530 patent pursuant to 35 U.S.C. § 271.

80. As a result of Array’s infringement of the ‘530 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Array’s infringement, but in no event less than a reasonable royalty for the use made of the invention by Array, together with interest and costs as fixed by the Court.

### **COUNT III**

#### **INFRINGEMENT OF U.S. PATENT NO. 9,116,908**

81. Plaintiff Realtime realleges and incorporates by reference paragraphs 1-39

above, as if fully set forth herein.

82. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,116,908 (“the ‘908 Patent”) entitled “System and methods for accelerated data storage and retrieval.” The ‘908 Patent was duly and legally issued by the United States Patent and Trademark Office on August 25, 2015. A true and correct copy of the ‘908 Patent is included as Exhibit C.

83. Consistent with the claim constructions above, Plaintiff Realtime identifies the following additional constructions applicable to the claims of the ’908 patent:

- a. “data accelerator: “hardware or software with one or more compression encoders.”

84. The ’908 claims are not abstract, but rather are limited to particularized technological solutions that improve computer capabilities—e.g., digital data compression systems and methods to improve the ability of a computer system to compress and store data blocks on memory devices more efficiently. Specifically, the ’908 patent claims are directed to: computerized systems and methods for compressing and storing digital data blocks on memory devices by (1) compressing first and second data blocks with different compression techniques and (2) storing the compressed data blocks on a memory device; wherein (3) compressing and storing the compressed data blocks occurs faster than storing the uncompressed data blocks on the memory device. *See ’908 Patent at Abstract; claim 1.*

85. Because the claims are limited to the field of compressing and storing digital data blocks (each of which can comprise complete files or collection of multiple files) and are designed to improve the ability of a computer system to compress and store data blocks on memory devices more efficiently, the claims of the ’908 Patent are

incapable of being performed by pen and pencil. For example, it is not possible by pen and paper to compare “compression and storage time” (i.e., the time required to compress first and second data blocks with different compression techniques and storing the compressed data blocks on a memory device) against “storage time without compression” (i.e., the time required to the uncompressed data blocks on the memory device without compression). Thus, it is not possible to ensure by pen and paper that “compression and storage time” occurs faster than “storage time without compression.” Moreover, as data has been construed previously, and should be construed herein, to mean “digital data.” Accordingly, the claim herein reflect an improvement to computing technology and computers and do not reflect a previously existing solution that are simply being performed on a computer.

86. The ’908 patent teaches improved, particularized digital data compression systems and methods to address problems specific to digital data. As discussed above, “data block” should be construed as “a single unit of data, which may range in size from individual bits through complete files or collection of multiple files”; and “compressing / compressed / compression” should be construed as “[representing / represented / representation] of data with fewer bits.” The ’908 patent itself states that states that it deals specifically with limitations and problems arising in the realm of compressing “[d]iffuse digital data” which is **“a representation of data that . . . is typically not easily recognizable to humans in its native form.”** ’908 patent at 1:32-36.

87. In their most basic form, and ignoring many claim limitations, the claims of the ’908 patent is directed to systems of digital data compression utilizing a plurality of different compression encoders for accelerated compression and storage of data blocks.

*See* '908 patent at Abstract, 2:58–3:58. The '908 patent addresses problems that existed in the realm of digital data compression, including:

- a. “high performance disk interface standards . . . offer only the promise of higher data transfer rates through intermediate data buffering in random access memory”
- b. “[f]aster disk access data rates are only achieved by the high cost solution of simultaneously accessing multiple disk drives with a technique known within the art as data striping”
- c. “problems with bandwidth limitations similarly occur within the art by all other forms of sequential, pseudorandom, and random access mass storage devices”

'908 patent at 2:19–54.

88. The '908 patent solves the foregoing problems with novel technological solutions in digital data compression utilizing a plurality of different encoders, and optionally a compression descriptor, for accelerated storage and retrieval of data blocks. The novel approaches taught in the specification, include:

- a. Using digital compression type descriptor “for output so as to indicate the type of compression format of the encoded data block”
- b. “data storage and retrieval accelerator method and system [being] employed in a disk storage adapter to reduce the time required to store and retrieve data from computer to a disk memory device”

- c. “data storage and retrieval accelerator method and system [being] employed in conjunction with random access memory to reduce the time required to store and retrieve data from random access memory”
- d. “provid[ing] an effective increase of the data storage and retrieval bandwidth of a memory storage device”

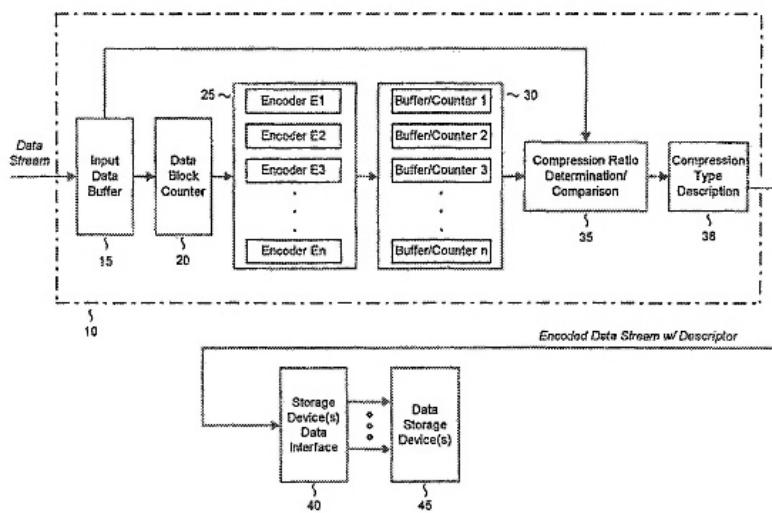


FIGURE 8

'908 patent at 2:58–3:54; 11:46–13:41. Figure 8 illustrates one preferred embodiment:

89. The claims do not merely recite a result. Instead, they recite specific steps for accomplishing a result—e.g., a data accelerator, comprising a memory device, two encoders, and a processor configured to compress two data blocks with two different compression techniques. The specification confirms this. To achieve continuous data storage acceleration, the '908 patent discloses a data storage accelerator 10 and recognizes that “the advantage of introducing a minimum delay in the time from receipt of input to storage of encoded data blocks” may be necessary in some real-time systems. '908 patent at 7:4–8:13; 7:31–34; 8:8–10. As illustrated in Figure 8, “the data

storage accelerator 10 accepts data blocks from an input data stream and stores the input data block in an input [data] buffer or cache 15.” *Id.*, 11:23-26. To compress the received data, “[t]he encoder module 25 successively receives as input each of the buffered input data blocks (or unbuffered input data blocks from the [data block counter] 20).” *Id.*, 11:52-54. “Data compression is [then] performed by the encoder module 25 wherein each of the encoders E1 . . . En processes a given input data block and outputs a corresponding set of encoded data blocks.” *Id.*, 11:54-57.

90. To achieve continuous data storage acceleration, the ’908 patent discloses several concepts that compress the received data blocks with minimal compression delay. *Id.*, 11:62-12:13; 13:22-31. First, “the encoders E1 through En of encoder module 25 may operate in parallel . . . , by executing on a plurality of processor[s] or dedicated hardware systems, or any combination thereof.” *Id.*, 11:64-12:2. Second, “a timer is included to measure the time elapsed during the encoding process against [] a priori-specified time limit” and ensure real-time or pseudo realtime encoding. *Id.*, 13:24-31. Thus, “[w]hen the time limit expires, only the data output from those encoders (in the encoder module 25) that have completed the present encoding cycle are compared to determine the encoded data with the highest compression ratio.” *Id.*, 13:26-30. Third, “encoders of the identical type may be applied in parallel to enhance encoding speed.” *Id.*, 12:9-11. “For instance, encoder E1 may comprise two parallel Huffman encoders for parallel processing of an input data block.” *Id.*, 12:11-13. By utilizing the above teachings, the data storage accelerator 10 would have allowed a system to compress and store at least two data blocks using at least two different compression techniques faster than the same system is able to store those same data blocks without any compression, as claim 1 requires.

91. In addition to continuous data storage acceleration, the '908 patent also recognizes that in some instances, the output rate of the data storage accelerator 10 may exceed the data storage rate capability of the data storage device 45. *Id.*, 9:29-10:10. To ensure compatibility in such instances, the '908 patent discloses “[t]iming and counting [the input data block to] enable[] determination of the bandwidth of the input data stream.” *Id.*, 9:27-28.) And “[i]f the bandwidths are not compatible, then one or more system parameters may be modified to make the bandwidths compatible.” *Id.*, 9:41-43. Thus a POSA would have understood from the teaching of the '908 patent's specification that (1) a compatibility problem may arise between the output rate of the data storage accelerator 10 and the write speed capability of the storage device; and (2) a solution to that problem is to make the bandwidths compatible between the data storage accelerator 10 and data storage device 45 by reducing the bandwidth of the compressed data stream so as to not exceed the bandwidth of the data storage device 45. This problem and solution is reflected in claim 26 of the '908 patent.

92. The claims require unconventional combination of elements, *e.g.*: (a) “a data accelerator” (*i.e.*, hardware or software with one or more compression encoders) that use at least two different compression techniques; (b) “a memory device” (c) where the data accelerator is configured to compress two data blocks; (d) including “a first data block with a first compression technique”; and (e) a “second data block with a second [and different] compression technique.” The data accelerator is unconventional, as it requires compression encoders using two different compression techniques and the

structural capability of compressing and storing digital data on a memory device faster than the digital data can be stored on the memory device in uncompressed form.

93. This “occurs faster than” limitation is unconventional, both alone and in an ordered combination with other claim elements. The prior art does not expressly disclose this limitation and defendants challenging the validity of the ’908 patent have not asserted that any prior art discloses this limitation or anticipates the ’908 patent. This evidenced, for example, by the outcome of IPRs on the ’908 patent and related ’530 patent. *See* IPR2016-01002 (FWD on ’908 patent), Paper 71 (PTAB Oct. 31, 2017) (affirmed by Federal Circuit); IPR2016-00972 (FWD on ’530 patent), Paper 71 (PTAB May 15, 2018) (affirmed by Federal Circuit ).

94. In the FWDs, for example, the PTAB addressed obviousness challenges as to whether the combination of two prior art references rendered obvious the “occurs faster than” limitation. In those IPRs, the PTAB found that Petitioners had not demonstrated a person of ordinary skill would be motivated to combine prior art references to arrive at the occurs faster limitation. The PTAB also found that Petitioners had not demonstrated a reasonable expectation of success in the combination. As the PTAB stated: “we find that Petitioner failed to meet its burden of proof in showing: (1) how specific references could be combined, which combination(s) of elements in specific references would yield a predictable result, or how any specific combination would operate or read on the asserted claims; which is closely related to point number (2), namely, whether a person having ordinary skill in the art on this record could have had a reasonable expectation of success in attempting to combine the teachings of Franaszek with Osterlund.” IPR2016-001002, Paper 71 at 20.

95. Further, the file history confirms that the claims were inventive over prior art and not well-understood, routine, and conventional. For instance, the patent claims were allowed by the PTO after the PTO considered hundreds of references, which are cited in the “References Cited” portion of the patent.

96. Claim 1 is not representative of all claims of the ’908 patent. In particular, the dependent claims contain limitations not found in the independent claims that further confirm that the claims are (1) are directed to digital data compression systems that improve the function and operation of a computer; and (2) recite unconventional elements taken alone or as an ordered combination. For example:

- j. Dependent claims 2–3, 22 require that the data accelerator store a first or second data descriptor is stored on the memory device indicative of the first or second compression technique, where the first / second descriptor is utilized to decompress the portion of the compressed data blocks associated with the first / second data block. Thus, claims 2–3, 22 require a data accelerator that has the structural capability of storing a data descriptor on the memory device.
- k. Dependent claims 4–5 require that the data accelerator retrieve either the first descriptor or compressed first and second compressed data blocks from the memory device. Thus, claims 4–5 requires a data accelerator that has the structural capability of retrieving a descriptor compressed data from the memory device.
- l. Dependent claim 6 requires that the data accelerator perform decompression; while dependent claims 7, 23, and 28 require that the

retrieval and decompression occurs faster than retrieving the data block in compressed form.

- m. Dependent claim 8 requires that the data accelerator is coupled to the memory device via an industry standard disk interface.
- n. Dependent claim 13 requires that the first compression technique includes compressing with a plurality of encoders “in a parallel configuration.”
- o. Dependent claim 18 requires the first and second data blocks comprise audio or video information.
- p. Dependent claims 19 and 25 require the first and second data blocks to be received over a communications channel.
- q. Dependent claim 20 requires that the first compression technique is “content dependent” and the second compression technique is a form of dictionary compression.
- r. Dependent claim 26 require determining the “bandwidth” of received data blocks; and adjusting a data rate of the compressed data blocks by “modifying a system parameter, to make a bandwidth of the compressed data blocks compatible with a bandwidth of the memory device.”
- s. Independent claim 29 requires (1) retrieving first and second compressed data blocks compressed with different techniques from a memory device; and (2) decompressing first and second compressed data blocks; wherein (3) retrieving and decompressing the compressed data blocks occurs

faster than retrieving the uncompressed data blocks from the memory device in uncompressed form.

97. In a patent filed by Altera in 2012, it admitted that there was still a technical problem associated with computer capacity and a need for a more efficient compression system “In order to better meet the requirements of higher speed data transfer, reduced memory utilization and minimal computation in many computing applications, a need exists for computationally efficient compression and decompression.” U.S. Pat. No. 9,026,568 at 2:43-47.

98. Similarly, in a 2013 patent filed by Western Digital, it also admitted that there was still a technical problem associated with computer capacity and a need for a more efficient compression system: “It is desirable to provide mechanisms and architectures for increasing capacity, reliability, and performance of data storage systems.” U.S. Pat. No. 9,448,738 at 1:33-35.

99. The statements in these later-filed patents confirm that Realtime’s patent at issue here are directed to technical solutions to technical problems, and improves computer functionalities. The statements in these later-filed patents also confirm that the limitations recited in Realtime’s patent at issue here are not well-understood, routine, or conventional, and that the claims are not directed to other ideas “identified by the courts as abstract ideas,” that recently have been synthesized into three groups: “(a) mathematical concepts”; “(b) methods of organizing human activity”; or “(c) mental processes.” 84 Fed. Reg. 50 (Jan. 7, 2019) (2019 PTO §101 Guidance, citing and surveying post-*Alice* decisions).

100. On information and belief, Array has offered for sale, sold and/or

imported into the United States Array products that infringe the ‘908 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Array’s products and services, e.g., aCelera WAN Optimization Controllers, aCelera VA Virtual WAN Optimization Controllers, aCelera cloud version, and all versions and variations thereof since the issuance of the ‘908 patent (“Accused Instrumentality”).

101. On information and belief, Array has directly infringed and continues to infringe the ‘908 patent, for example, through its own use and testing of the Accused Instrumentality, which constitutes a system comprising: a memory device; and a data accelerator configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block; wherein the compressed first and second data blocks are stored on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form. Upon information and belief, Array uses the Accused Instrumentality, an infringing system, for its own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to Array’s customers.

102. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the systems claimed by the ‘908 patent.

103. On information and belief, Array has had knowledge of the ‘908 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, Array knew of the ‘908 patent and knew of its infringement, including by way of this lawsuit.

104. Upon information and belief, Array’s affirmative acts of making, using,

and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 1 of the ‘908 patent by making or using a system comprising: a memory device; and a data accelerator configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block; wherein the compressed first and second data blocks are stored on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form. For example, Array explains to customers the benefits of using the Accused Instrumentality: “Available on high-performance Array appliances or as software for cloud and virtualized environments, aCelera™ accelerates the transfer of data and improves the performance of business-critical applications across wide area networks. In addition, aCelera greatly improves bandwidth utilization, allowing businesses to reduce costs or increase ROI by doing more with less. Leveraging stream-based differencing, application blueprints, single instance store, traffic prioritization and network, application and TCP optimizations, aCelera physical and virtual appliances and software clients cost-effectively deliver LAN-like performance between any cloud, data center, branch or user. ... **Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Compression:** Compression provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation.

**Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.” See <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>. For similar reasons, Array also induces its customers to use the Accused Instrumentalities to infringe other claims of the ‘908 patent. Array specifically intended and was aware that these normal and customary activities would infringe the ‘908 patent. Array performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the ‘908 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Array engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Array has induced and continues to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the ‘908 patent, knowing that such use constitutes infringement of the ‘908 patent.

105. The Accused Instrumentality evidently includes a memory device and a data accelerator configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block. For example, the physical appliance versions of the Accused Instrumentality must contain a memory device, and the virtual appliance versions of the Accused Instrumentality must run on hardware containing a memory device running the hypervisor on which the virtual appliance versions run. *See, e.g.,* <https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

[aynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us](https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us)

(“Physical appliances supporting from 10Mbps to 1Gbps and up to 100,000 concurrent TCP connections. Virtual appliances supporting up to 1Gbps and 64,000 concurrent TCP connections.”). The Accused Instrumentality compresses (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block.). See, e.g.,

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

**(“Single Instance Store:** Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. ... **Compression:** Compression provides an ideal balance between data reduction and maximized throughput by performing compression on the first pass of data and then leveraging application acceleration blueprints to deliver content-aware de-duplication that separates encapsulation from the payload to prevent long-term performance degradation. **Content-Aware De-Duplication:** aCelera content-aware de-duplication goes beyond that of other WAN optimization vendors. As data streams are processed, aCelera segments and builds histories and distinguishes the protocol used to transfer the content. By stripping off both TCP/IP and protocol encapsulation, aCelera creates a clean history based on pure content.”); <https://www.arraynetworks.com/ufiles/Library/pr-2016-06-02.pdf> (“Array aCelera speeds data transfers and reduces application response times over wide area networks by reducing the amount of traffic transmitted between remote offices, remote users, data centers and clouds. Supporting up to 1Gbps throughput, Array WAN optimization controllers include functionality such as compression, deduplication, HTTP, TCP, Common Intern File System (CIFS), Messaging APO (MAPI), Citrix Independent

Computing Architecture (ICA), traffic shaping and quality of service (QoS.”).

106. The Accused Instrumentality stores the compressed first and second data blocks on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form.

*See,* *e.g.,*

<https://webcache.googleusercontent.com/search?q=cache:Uag7ICcaJ7oJ:https://www.arraynetworks.com/ufiles/resources/DS-aCelera.pdf+&cd=2&hl=en&ct=clnk&gl=us>

(“Available on high-performance Array appliances or as software for cloud and virtualized environments, aCelera™ accelerates the transfer of data and improves the performance of business-critical applications across wide area networks. In addition, aCelera greatly improves bandwidth utilization, allowing businesses to reduce costs or increase ROI by doing more with less. Leveraging stream-based differencing, application blueprints, single instance store, traffic prioritization and network, application and TCP optimizations, aCelera physical and virtual appliances and software clients cost-effectively deliver LAN-like performance between any cloud, data center, branch or user.

... Single instance store provides a scalable resource to implement data differencing so that unchanged data is not sent over the network twice. The store also prevents multiple copies of the same data from being stored and maintained and enables predictive preloading based on usage patterns. The history store scales linearly with memory, and storage space adjustments are easy to implement both on physical appliances and in virtual environments. Single instance store allows aCelera to scale to support the needs of large deployments while maintaining high levels of performance, and is critical to supporting individual users without over-utilizing data stores in the data center or cloud. Single instance store also enables peak performance for complex environments such as meshed networks.”).

107. On information and belief, Array also directly infringes and continues to infringe other claims of the ‘908 patent, for similar reasons as explained above with

respect to Claim 1 of the ‘908 patent.

108. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities’ compression features, Array has injured Realtime and is liable to Realtime for infringement of the ‘908 patent pursuant to 35 U.S.C. § 271.

109. As a result of Array’s infringement of the ‘908 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Array’s infringement, but in no event less than a reasonable royalty for the use made of the invention by Array, together with interest and costs as fixed by the Court.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Realtime respectfully requests that this Court enter:

- a. A judgment in favor of Plaintiff that Array has infringed, either literally and/or under the doctrine of equivalents, the ‘728 patent, the ‘530 patent, and the ‘908 patent;
- b. A judgment and order requiring Array to pay Plaintiff its damages, costs, expenses, and prejudgment and post-judgment interest for its infringement of the ‘728 patent, the ‘530 patent, and the ‘908 patent; and
- c. A judgment and order requiring Array to provide an accounting and to pay supplemental damages to Realtime, including without limitation, prejudgment and post-judgment interest;
- d. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys’ fees against Defendants; and
- e. Any and all other relief as the Court may deem appropriate and just under the circumstances.

**DEMAND FOR JURY TRIAL**

Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by

jury of any issues so triable by right.

Dated: May 18, 2021

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